
Chapter 2: Inventory of Existing Conditions



Kentucky River

2.1. TOPOGRAPHY

Lexington-Fayette County is known worldwide for its scenic landscapes. Most of Lexington-Fayette County's 280 square miles is situated in the Inner Bluegrass region of the Interior Low Plateau physiographic province. The area is characterized by gently rolling hills, fertile soils and slow moving streams. The other region, the Hills of the Bluegrass, covers only a small area in the southeastern part of the County, and includes the tributaries that are adjacent to the Kentucky River. The landscape in this area is characterized by highly dissected, long and narrow ridge tops and moderately steep to very steep hillsides. The Palisades at the River are limestone cliffs of 200 feet or greater. There is little elevation change over most of the County, except in the Hills of the Bluegrass, which has a fluctuation of some 400 feet.

Lexington is unique for a city of its size, in that it is not situated on a major river. The Urban County does have five hundred sixty (560) miles of creeks, which are tributaries that drain into the Kentucky River located at the southeast border of the County. Lexington-Fayette County has nine watersheds,

seven of which are located within the Urban Service Area. Watershed management is particularly critical for the seven major streams whose headwaters originate in the County¹. (See Watershed Map on page 2-7.)

2.2. LAND USE

The initial inhabitants of Lexington-Fayette County were Native Americans who raised crops and hunted the native buffalo and deer. Later, European settlers were also attracted to Central Kentucky because of the fertile land, gently rolling landscape, hardwood forests, and slow moving streams. In 1775, William McConnell started a settlement on Town Branch, which became the City of Lexington.

In 1781, the new town's first plat was ratified by the Virginia Legislature. The plat covered 710 acres, and the layout was dictated by the orientation of Town Branch, the community's main water source. Streets were established on a grid pattern that ran parallel to the stream. Early planners recognized the importance of public open space and water quality; the Town Commons (Vine Street today) was used

for meetings, markets, recreation and water supply protection. The town's layout and subsequent direction of growth were largely dictated by topography. Lexington was settled on a high spot, with all streams that originate in Fayette County draining away from the downtown area. A divide southeast of town originally acted as a barrier to development. Today, watersheds continue to be a determining factor in the location of new development, with regard to the feasibility of sanitary sewer service. The landscape has and will continue to influence urban planning.

Soon after its founding, Lexington became a major economic and cultural hub for the new state. Major southeast and northeast routes brought in new residents to farm or work in the thriving industrial businesses. The town was also a major dispatching point for west bound travelers. The present day radial pattern of arterial streets is a result of Lexington's importance as a regional link to the surrounding settlements.

Besides Lexington, other early Fayette County settlements at the end of the eighteenth century included Cross Roads (Athens), Cleveland (Clays Ferry) and Spearsville (Spears). Numerous other small communities were formed (most of them after the Civil War) for African-American housing. Fifteen of these early settlements are now classified as rural settlements. (See Key Land Use Locations Map on page 2-20.) Two of the early settlements, Bracktown and Cadentown, are still viable communities that are now within the Urban Service Area of Lexington.

Gradual residential growth extended the city's urbanized area in all directions well into the twentieth century. Population shifts to suburban locations after World War II placed an increased demand on public services and infrastructure, including transportation, stormwater management, sewage treatment and recreation. In the 1965 Historical Development of Lexington and Fayette County, issues arising from the influence of the automobile were discussed, including some that are still relevant today, such as the lack of pedestrian-oriented commercial centers, lack of good design, destruction of aesthetic qualities of the community and uncontrolled access to major roads. The report concluded that with Lexington's continued presence as the region's shopping and cultural center, the City

should make every effort to build an urban environment that reflects the community's elevated status in terms of educational and cultural achievement. "The development of these cultural and aesthetic public improvements identify the 'way of life' of the citizens of the community and, to a large extent, enhance the 'livability' of the city."²

Historically, land use plans have stressed the importance of planning for new development in an orderly fashion that protects natural resources and provides open space opportunities. In 1958, the Community established the Urban Service Area (USA) in an effort to preserve the rural atmosphere and heritage of the area by protecting the farmland surrounding the urban area.

In 1960, the Urban Service Area contained 24 square miles; by 2000, it had expanded to 85 square miles. Between 1995 and 2000, 85% of the Urban County's growth was in the south and east quadrants, with 5,400 acres added to the USA in 1996, and another 210 acres in 1998.



Urban Edge

Lexington-Fayette County's growth throughout the years has been primarily on good soils with adequate drainage and gentle slopes. As the Urban Service Area expands, it is important to note that many of the developing areas have severe environmental problems. Physical constraints will be further aggravated by required higher density development and smaller lot sizes, so that land use may need to be redistributed according to site conditions. Higher densities, steep slopes, thin soils and floodplains will require that greenspace and floodplain management become integral components of planning. Future demands for development will have to be monitored for the carrying capacity of the land in order to maximize usage while protecting the environment, providing public services and maintaining/improving quality of life.³

2.3. POPULATION

The populations of Lexington-Fayette County and the Census Bureau's Metropolitan Statistical Area have increased steadily over the past four decades. The population of Lexington-Fayette County basically doubled from 131,906 in 1960 to 260,512 in 2000, with an increase of 15.6% for the last decade. In the seven-county Metropolitan Statistical Area (MSA), the population has increased from 405,936 in 1990 to 479,198 in 2000, an 18% increase for the area. Fayette County, as a percentage of the MSA population, has declined from 56.3% in 1970 to 54.4% in 2000. This trend is expected to continue, as counties surrounding Fayette will grow at a faster rate.

This trend will also have an important impact on land use planning decisions, especially with regard to accessibility of transportation, recreation, housing, healthcare and other services.

The distribution of urban to rural growth has also dramatically changed. In 1960, 83.6% of the urban population lived inside New Circle Road. In 2000, that had dropped to 43%. Areas of the largest increase were in the south and east quadrants. During the 1990s, there was a rapid increase in the rural population outside of the Urban Service Area. The Rural Service Area Land Management Plan was adopted to reverse that trend.

Throughout the 1990s, forecasts from various sources underestimated the 2000 population. Based on the preliminary 2000 Census data, projections used in the 2001 Comprehensive Plan Update estimate the future population of Lexington-Fayette County to continue at the current 15% decennial rate, for an increase to 300,000 in 2020. As the population continues to grow and development pressure increases, the need for conservation of undeveloped lands, such as greenway corridors, will also continue to increase. With growing populations anticipated both within Lexington-Fayette County and each adjacent county, greenway planning must consider the service needs of both the urban and rural connector routes to create a comprehensive regional system.⁴

2.4. NATURAL RESOURCES

Soils

Lexington-Fayette County is predominately underlain by the Lexington Limestone Formation. The limestone bedrock is characterized by karst

formations, such as caves, underground drainage, sinkholes, large springs and groundwater seeps. Soils in the County are derived primarily from the weathered bedrock geology. They can be generally described as high in natural fertility, have clayey subsoil, deep and well drained to thin soil cover. The current soil survey for Lexington-Fayette County is from 1968. (The Natural Resource Conservation Service is working with LFUCG to develop an updated survey.) Based on the 1968 survey, 68% of the County is in prime farmland. The predominately silty loam soils have a naturally high phosphorous content. While advantageous from an agricultural standpoint, this element makes management efforts along streams more critical from a water quality perspective. There are two hydric soils, which make up 3.7% of the total County. Hydric, or waterlogged soils, can generally be found only in the floodplain areas around rivers, creeks, and groundwater seeps.⁵

Floodplains

Small stream terraces constitute the majority of floodplains in Lexington-Fayette County, with a small percentage of riverine floodplain along the Kentucky River. There are over 12,000 acres of floodplain in the County, with approximately 30% of those floodplains within the Urban Service Area.

As Lexington developed, streams in or near Downtown were channeled through underground vaults. Urban Lexington does not experience widespread flooding from any one stream; however, numerous portions of streams overflow, causing localized problems. Flooding is exacerbated by urban encroachment into the floodplains, runoff from impervious surfaces and storm sewer problems. These conditions cause Lexington to experience flood damage from frequent storm events of low rainfall amounts, especially in the older parts of the City.⁶



Glendover Neighborhood

A 1997 Reconnaissance Report by the Army Corps of Engineers identified flood prone areas around Wolf Run, Vaughns Branch, Big Elm, Cane Run, Town Branch, West Hickman Creek, South Elkhorn Creek, and North Elkhorn Creek. Most of these areas are narrow floodplains adjacent to residential areas, which can result in frequent basement flooding. To mitigate the impact of flood damage on the Community, the LFUCG has recognized the importance of protecting floodplains for their floodwater absorbing capabilities. Home buy-out programs and the 2001 Stormwater Manual's ban on new development in floodplains are two methods used to abate flood damage. Greenways will also be an important tool in establishing Urban-County ownership and protection of flood prone areas.



Montavesta Neighborhood

Water Quality

Historically, streams have provided drinking water, food and recreation to the area inhabitants. Ironically, the river and streams that so significantly aided in the area's development now suffer from the effects of that development. Urbanization has a two-fold effect on water sources: the first effect is increasing runoff and flooding; the second is degrading water quality. In order to provide better protection and best management practices to streams throughout the Community, a watershed management approach has evolved over the past few years in the land planning process. Efforts to achieve improved water quality include the adoption of the Rural Land Management Plan, Reforest the Bluegrass Program and the adoption of the Stormwater Manual. The adoption of the Greenway Master Plan will further enhance water resource protection.

One area of particular concern is the upper portion of Cane Run, which drains a portion of the Urban Service Area and serves as the recharge area for the

Royal Spring Aquifer in Fayette and Scott Counties. The two Counties have adopted the Royal Spring Wellhead Protection Plan to protect the groundwater, which is the source of drinking water for Scott County residents. The Aquifer is highly susceptible to pollution because of potential contamination through the region's sinkholes, underground streams and caverns.⁷

Lexington-Fayette County monitors some of its streams for water quality. The Federal Clean Water Act requires each state to develop a Report to Congress (305b Report) on water quality every two years. Streams are assessed for their ability to support general aquatic life, fishing, swimming and drinking water. The assessed streams are rated as supportive, partially supportive and non-supportive. Not all streams have been assessed.⁸ (See Stream Quality Map on page 2-8.)

Water quality has historically been compromised in the rural parts of the County because of the practice of allowing livestock to wade in streams and ponds. This caused stream banks to erode and caused water contamination with organic waste. New clean water regulations should help with this problem.

Lexington-Fayette County receives its water supply from the Kentucky River and Jacobson Reservoir. Recommendations from the Fayette County 20-Year Comprehensive Water Supply Plan include protection of the intake location on the river for at least one mile upstream, and a watershed protection area around the reservoir. The Plan also recommends protection measures for sections of Boone, Elk Lick and Raven Run Creeks that may qualify for designation as special use waters, such as Outstanding National Resource Water, State Wild River, Federal Wild River or Federal Scenic River.

Wetlands

Wetlands come in several forms, depending on the surrounding topography and hydrology of the land. Typically, wetlands occur in low-lying floodplain areas, which are adjacent to stream corridors. Non-riparian wetlands are the result of springs. Wetlands provide habitat for wildlife and are important in filtering pollutants and absorbing floodwaters.

There are no extensive wetland areas found in Lexington-Fayette County because of the karst geology. Small isolated wetlands are mostly found adjacent to the Kentucky River and streams.

Lexington-Fayette County is unique because it contains numerous wetland springs in addition to typical ones found in floodplains.⁹

Vegetation

Vegetation is a critically important feature of both the natural landscape and the built environment. Vegetation filters pollutants from the air and surface waters, moderates local climates, offers relief from exposure to sun, wind and rain, and provides habitat for numerous species of wildlife. Lexington-Fayette County once had unique savanna-like vegetation with an open tree canopy. Original species included bur oak, blue ash, chinquapin oak, Shumard oak, white oak, white ash, hackberry, sugar maple, black walnut, black cherry, coffee tree, American elm, shagbark hickory, and bitternut hickory. The early groundcover consisted of grasses, white clover, buffalo grass and native cane. There were dense stands of hardwood forests in and around streams and the Kentucky River.¹⁰



Masterson Station Woodland Savannah

When settlers arrived, much of the open savanna forests were cleared for homesteads and agricultural purposes. The settlers brought familiar plants with them, introducing both agricultural and ornamental species. While some remnant savanna areas remain, the Lexington-Fayette County landmass outside of the Urban Service Area now consists primarily of open fields and pastures. Remaining forested areas, typically located along fence rows or steep slopes, consist mainly of hardwoods such as oak, silver maple, green ash, hackberry, mulberry, elm and hickory.¹¹

According to the U.S. Forest Service, Lexington-Fayette County has 22 percent tree cover, which

ranks in the bottom four of all counties statewide.¹² From 1998 aerial photography, there were approximately 17,700 acres county-wide of significant tree stands (defined as one-quarter acre or greater), of which 4,115 acres were inside the Urban Service Area. The largest concentration of tree stands is in the southeast portion of the County, in and around Raven Run Nature Sanctuary and the Kentucky River tributaries. An important stand of savanna-woodland forest remains at the Kentucky Horse Park. Stands within the Urban Service Area are at McConnell Springs, Stonewall School Woods, Shady Lane Woods, Shillito Park, Hillcrest Cemetery and Lexington Cemetery. Also, tree stands were detected on the aerial most prominently along

portions of the North Elkhorn Creek, South Elkhorn Creek and Town Branch.

In the last four years, 100,000 trees have been planted by approximately 4,000 volunteers as part of the 'Reforest the Bluegrass' program. Riparian areas of Coldstream

and tributaries of Town Branch and the South Elkhorn were planted. Trees are also planted by efforts through the Corridors Committee's enhancement projects.¹³

According to the Kentucky State Nature Preserves Commission, Lexington-Fayette County does not have any exemplary natural communities. The following number of plant species have been noted to occur in the County that are on the state listing, including

- 1 historic plant species
- 10 threatened plant species
- 4 plant species of special concern
- 3 endangered plant species

Of these state listings, one species, the Running Buffalo Clover, is also on the federal endangered list. Another species, the Lesquereux's bladderpod is a federal candidate.¹⁴

Wildlife

There are two broad categories of wildlife that are of concern to this planning effort: "edge" wildlife species and "interior" woodland wildlife species. Most species of wildlife that inhabit urban areas are known as edge species. These mammals, birds, amphibians and insects have adapted to urbanized landscapes and have developed harmonious relationships with urban residents. Edge environments exist in many locations throughout Lexington-Fayette County. The Greenway Master Plan is primarily concerned with those edge environments that may exist within the floodplains of the Urban County. These resource areas are arguably the most valuable for wildlife in that they provide a food source, water and shelter. Approximately 80 percent of all wildlife is dependent on riparian corridors for survival. Therefore, the protection of floodplains is crucial to sustaining a diversity of wildlife in Lexington-Fayette County.¹⁵

Besides habitat, riparian, railroad and utility corridors provide a means for migration required by many mammals. Each species has unique territorial requirements, and that territory can be enlarged by linking islands of urban wildlife habitats with linear corridors. By connecting isolated patches of habitats, populations are better controlled, and passage is safer from one area to another. Space for escape and foraging is greatly increased. The wider the corridor, the more self-sustaining and balanced the ecosystem becomes¹⁶.



The Kentucky State Nature Preserves Commission reports the following number of animal species of special importance to the state:

	Threatened	Special Concern	Endangered
Insect	1	1	
Amphibian		2	
Bird	2	7	
Mammal		1	1

One of the Kentucky listed insects, the American Burying Beetle, and one mammal, the Indiana Bat, are federally listed as endangered species.

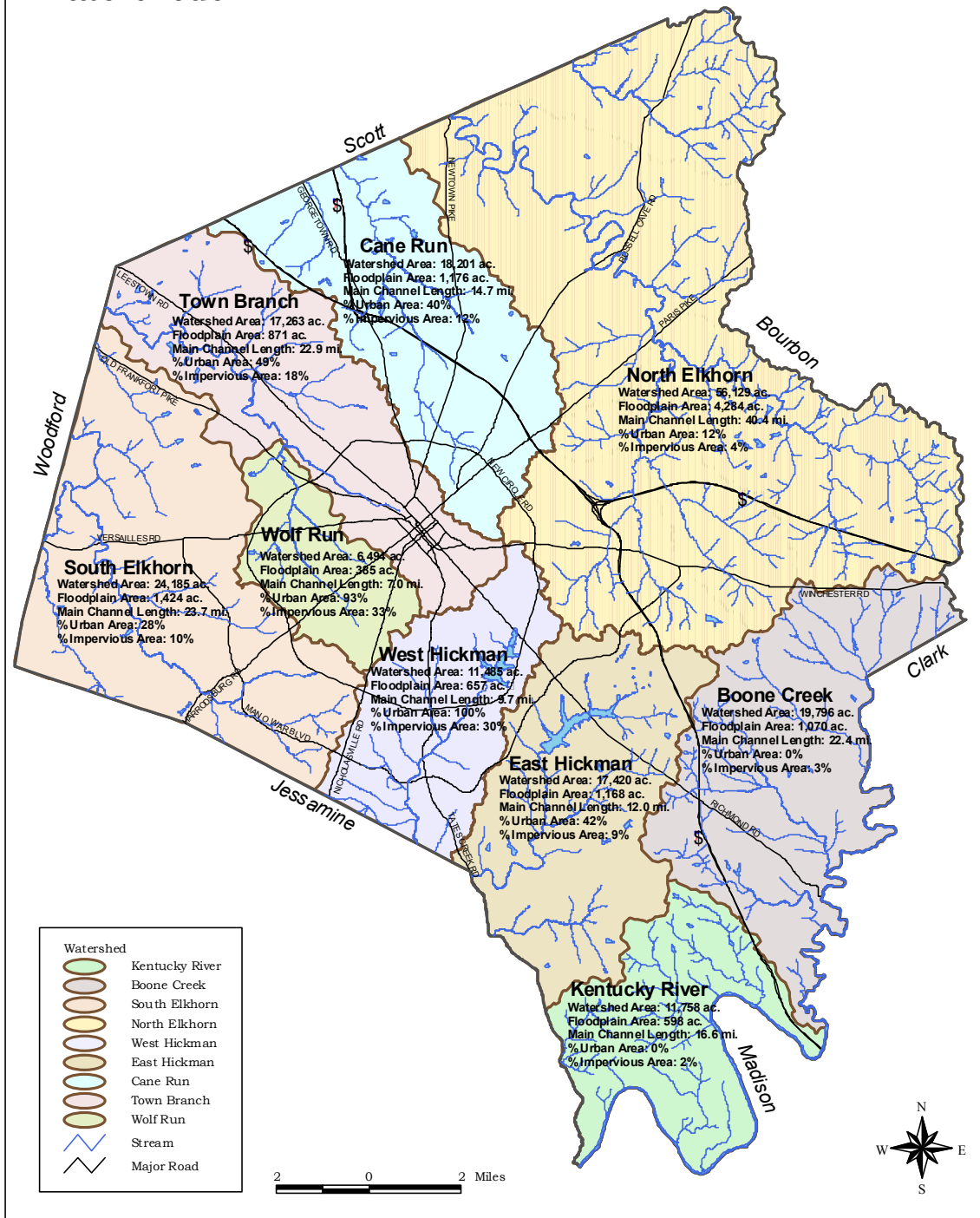
Habitats for interior and edge species exist in various forms throughout the area. However, the significant natural undisturbed areas for interior species are located in southern Lexington-Fayette County. This area includes the 274 acres in Raven Run Nature Sanctuary and State Nature Area, and the 287 acres in the Floracliff State Nature Preserve near the Kentucky River¹⁷.

Environmentally Sensitive and Geologic Hazard Areas

Several areas throughout the County have been designated as environmentally sensitive because they have characteristics that could be problematic if developed. These areas include floodplains, slopes over 15%, sinkholes, significant tree stands, and other general environmental areas. Geologic hazard areas have environmental problems that are so numerous that any development would pose a serious threat to the health, safety or welfare of the Community. These include areas of excessive floodplains, areas with potential of collapse, clusters of sinkholes, or sinkholes that have been used for waste and refuse.¹⁸ (See Environmentally Sensitive Areas Map on page 2-9.)

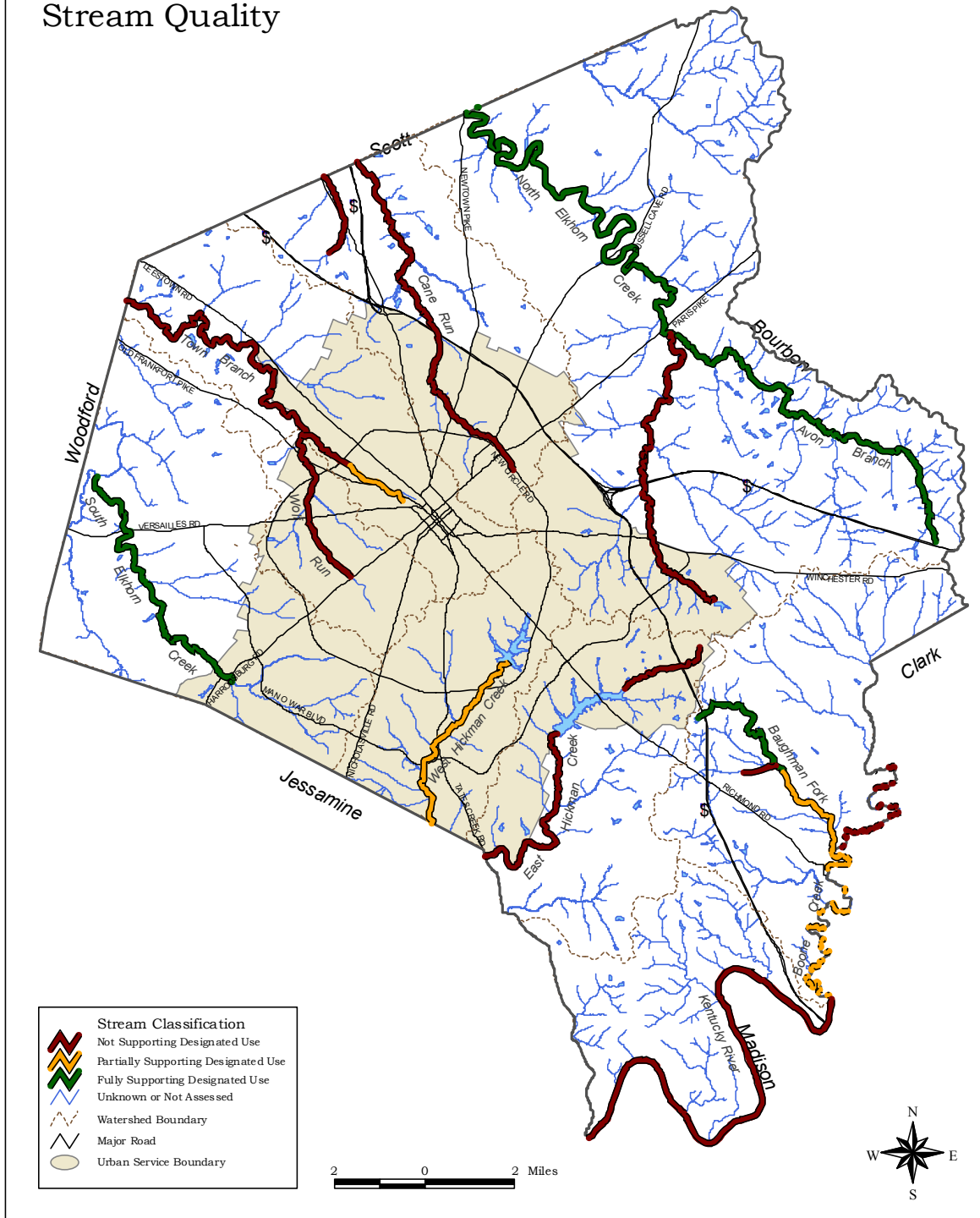
LFUCG Greenway Master Plan

Watersheds

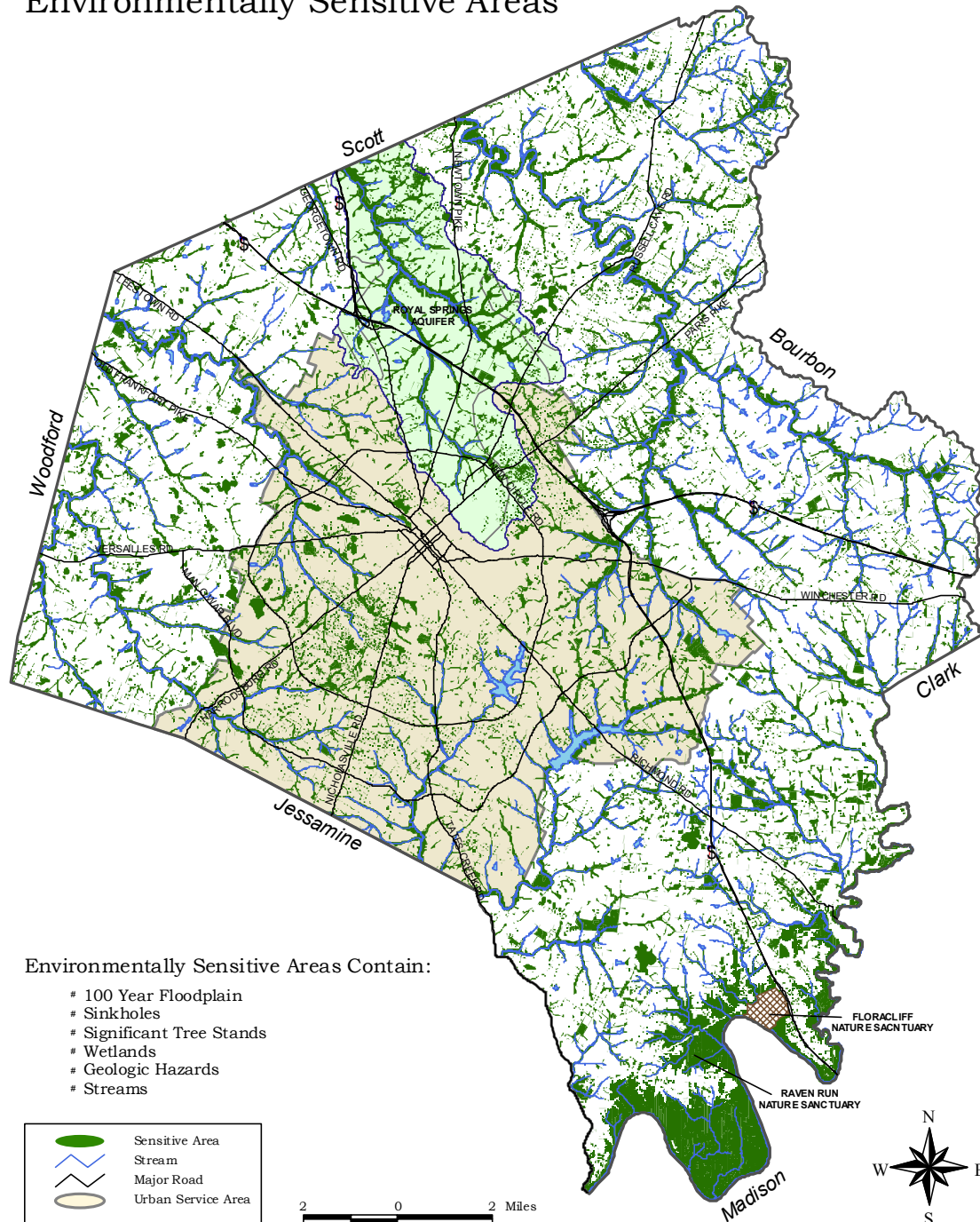


LFUCG Greenway Master Plan

Stream Quality



Environmentally Sensitive Areas



2.5. TRANSPORTATION RESOURCES

Streets and Roads

As in most metropolitan areas in the United States, the dominant system of transportation in the Lexington area is the highway system. Lexington-Fayette County is Central Kentucky's largest urbanized area, and serves as the leading market and trade center for the region. It also provides employment, education, health-care, and many other services and opportunities to Central Kentuckians. Transportation planning is conducted by the Lexington Area Metropolitan Planning Organization (MPO), which is comprised of Lexington-Fayette County and Jessamine County to the south.

The urbanized area's highway system is a radial pattern with several principal arterial and collector roads radiating outward from Downtown to the rest of the County and beyond to the surrounding communities. New Circle Road is a circumferential arterial that encompasses a large portion of the urbanized area. The northeast portion is non-limited access with numerous signals and access points. The rest is a limited access highway.

Man o' War Boulevard parallels New Circle Road on its southern half and serves a large area of mostly residential land use. In the north, Citation Boulevard is completed from the Norfolk Southern Railroad, across Georgetown Road (US 25), to Newtown Pike (KY 922). This circumferential arterial will serve large areas of industrial land use. A network of minor arterials, major and minor collectors, and local streets make up the remainder of the system and provide access to the various land uses. Circumferential routes, which connect the radial arterials, are extremely important for the efficient distribution of traffic in this radial system. The Transportation System is shown on the Transportation Map on page 2-15.

Public Transportation

The Lexington Transit Authority, (LexTran) is Lexington's public transportation system. LexTran maintains a fleet of 46 busses and operates eight bus routes servicing the major areas around Lexington. As part of LexTran's Bike 'n Ride program, every bus in their fleet has been equipped with bike racks. With ridership at an all-time high, the addition of greenway connections to public transit stops will help develop an alternative transportation system in



LexTran Transit Center

Lexington-Fayette County and will encourage further system use.¹⁹

Bicycle System

Local and national studies indicate a willingness to use the bicycle for transportation. In a 1991 Harris Poll conducted for *Bicycling Magazine*, 21% of the 1,255 adults surveyed said they would sometimes commute to work by bike if there were safe bike lanes, showers and bike storage facilities at the work place, and financial incentives from their employer. Given these results, it follows that improving the general bicycle-riding environment would spur an increase in the number of utilitarian bicycle trips.

Designated bicycle facilities in the MPO area are limited and discontinuous. There are short sections of bicycle lanes on Rose Street, Waller Avenue, Bryan Station, Euclid Avenue, and Alumni Drive, as well as a signed route that follows portions of Bellefonte Drive, Rosemont Garden and other low-traffic streets. At the same time, a fair amount of bicycle travel is currently being accommodated on the existing street system without the benefit of facilities designated especially for bicycles. Any change in the roadway system should evaluate the benefits of accommodating bicyclists.

Unfortunately, urban development is forcing bicyclists onto the rural roads; in general, these roads throughout the Rural Service Area are narrow, rolling and winding. In addition, many roads lack wide shoulders to accommodate bike lanes.

Organizations like the Bluegrass Cycling Club have had to move trailheads and routes in response to increased development and increasing traffic.

Portions of Ironworks Pike, Newtown Pike and Mount Horeb in the north quadrant, and Athens-Boonesboro Road, Cleveland Road, Old Richmond Road and Jacks Creek Pike in the southern part of the County, are on the statewide bicycle route called the Bluegrass Tour.

While the bicycle has the right to travel on any street in the County (except limited access highways), much improvement is needed to create an environment where bicycling is a viable commuter option and pleasant experience for the recreational rider. The MPO and Bicycle/Pedestrian Advisory Committee have addressed bicycle and pedestrian issues in the Year 2025

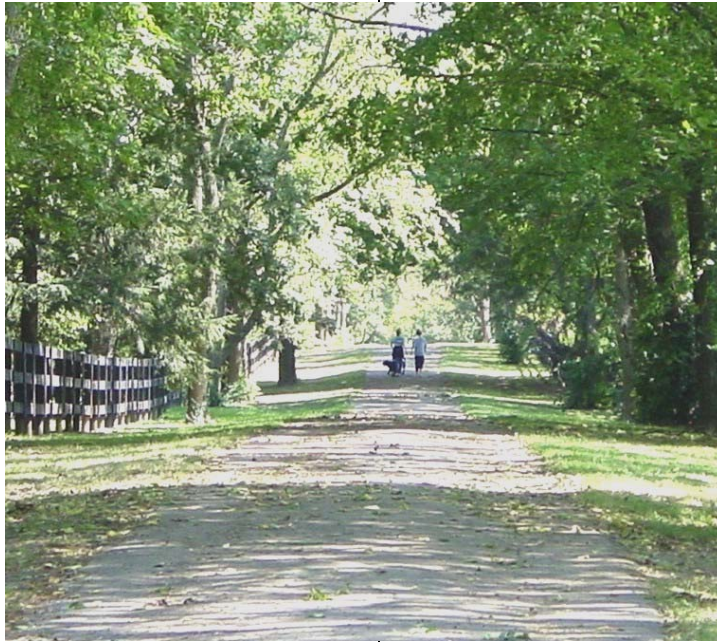
Transportation Plan. The Plan Recommendations recognize the greenway system as a very important component in the transportation goal of providing an alternative transportation system. Specific bike and pedestrian treatments are recommended; and as future road improvement projects are designed, bike and pedestrian facilities will be considered as part of these projects.

According to the 1999 AASHTO standards, there are 5 classifications of bikeway facilities.²⁰ They are as follows:

1. Shared Roadways (no bikeway designation; includes wide shoulders, wide curb lanes)
2. Signed Shared Roadways (bike route designation)
3. Bike Lanes
4. Shared Use Paths (off-road trails)
5. Others (freeways and sidewalks where necessary)

Lexington-Fayette Urban County has the following bikeway facilities, either existing or proposed as a component of road improvement projects:

- 16 miles of existing shared roadways and 4 miles proposed
- 4 miles of signed shared roadways and none proposed
- 3 miles of bike lanes and 13 miles proposed
- 6 miles of shared use paths and funding is in place for an additional 17 miles.



Shared Use Path

As farms are developed into residential developments, the numerous farm roads provide an excellent opportunity for trails throughout the new neighborhoods. The Beaumont Trail system is based on old farm roads. Another opportunity arises when existing roads are realigned. The old road section can be adapted to a shared use facility, such as the conversion

of Squires Road to Squires Road Trail.

Pedestrian System

For the most part, the urban and suburban areas of Lexington have existing sidewalk facilities for pedestrian use. However, there are newer subdivisions and small sections of older, developed areas without adequate sidewalks. A partially completed sidewalk survey by the Division of Engineering details the locations of these deficiencies. A thorough analysis of the data needs to be completed. Walking trails are in many parks (see Parks and Recreation on page 2-16), and several shared use paths exist (see Bicycle System, previous section). However, throughout the Community there are areas with insufficient linkages between residential neighborhoods, shopping, recreational, and employment areas.

Downtown Lexington serves not only as a major destination and origin, but is the central hub for outlying links. A successful linkage system will utilize Downtown as a switching point for

cross-town connections, taking advantage of the existing sidewalks and park system. The system will facilitate the use of pedestrian and bike facilities, resulting in an increase in participation.

Pedestrian-friendly sidewalks are important in developing an alternative transportation system. The LFUCG already has standards in place for street and sidewalk design to ensure that new construction will meet standards and enhance the existing trail and multi-use transportation system. In efforts to help revitalize Downtown, the LFUCG has expressed interest in utilizing trails to encourage infill in the downtown area. This will hopefully make Downtown more attractive to pedestrians and convey a positive image, resulting in greater use of the Downtown area.



Downtown Cheapside Park

The 1990 Census data identified that 5% of Fayette County residents walk, and 0.4% use a bike as their usual mode of transportation to their place of employment. These figures compare favorably with the state (4% walk/0.1% bike) and national (4% walk/0.4% bike) averages.

Evaluating the Suitability of Lexington-Fayette County Streets for Biking and Walking

In 1999-2000, the Bicycle Pedestrian Advisory Committee (BPAC) began an effort to evaluate the bicycling suitability, or level of service, that currently exists on the major roadways within the urbanized area of Lexington-Fayette County. The BPAC chose the *Bicycle Level of Service (Bicycle LOS) Model* as the foundation of the evaluation. This model, developed by Bruce Landis of SCI, is the most accurate method of evaluating the bicycling conditions of shared roadway environments. It uses the same measurable traffic and roadway factors that transportation planners and traffic engineers use for other travel modes. With statistical precision, the Model clearly demonstrates the effect on bicycling suitability or compatibility, based on factors such as roadway width, bike lane widths and striping combinations, traffic volume, pavement surface conditions, motor vehicle speed and type and on-street parking. As expected, the initial evaluation of the Lexington urban area showed that the road network provides somewhat poor conditions for bicycling, with an average a level of service grade “C” on a scale of “A” through “F”.

Starting in 2002, the BPAC will complete the Bicycle LOS evaluation for the rural area. Once the initial evaluations have been completed, the model will be updated on a regular basis. Also, a component to assess the pedestrian level of service conditions will be added.

The bicycle and pedestrian level of service evaluations will be used for a variety of purposes, such as the following:

- monitoring bicycling conditions on major roadways,
- evaluating the effect of a proposed transportation project on bicycling conditions,
- evaluating the benefit of alternative bicycle improvements,
- generating route maps and
- selection of projects for inclusion in the 2025 Transportation Plan and the Transportation Improvement Program.

Finally, in order to calibrate this model with real world conditions, the MPO will continually seek input from the cyclists who actually use the facilities.

Rail System

Lexington-Fayette County's railroad system historically served as a transportation hub and was developed as a multi-use rail-line at a time when rail travel was popular. Currently, there are 59 miles of active lines in the County.²¹ Over the past twenty to thirty years, several railroad corridors have been abandoned by railroad companies. In most cases, the rail bed still exists, although much of the right-of-way has been acquired by adjacent property owners or disposed of intact. There is enormous potential for reuse of open space in these areas. A railroad corridor is generally considered abandoned when: (1) rail service is discontinued; (2) the Surface Transportation Board (STB) officially approves the abandonment; and (3) tariffs (pay-schedules) are canceled. A rail corridor can be legally abandoned even if the tracks and ties are still in place. However, even if the tracks have been removed, the rail corridor may not be legally abandoned.



Abandoned Rail Line

There are several abandoned line sections, including

- the old Chesapeake and Ohio line which runs from Lexington to Winchester. This line is approximately 22 miles long, (6.5 miles of which are contained within Lexington-Fayette County). It was abandoned by CSX Corporation between 1984 and 1987. Much of the line is intact, but has been sold or has reverted back to adjacent property owners. The opportunity exists in the long term to purchase right-of-way or to obtain long-term public easements or dedications for the entire length, which runs to Ashland, Kentucky.
- The Louisville and Nashville line from Lexington to Paris is approximately 13 miles long (3.5 miles within Lexington-Fayette County) and parallels Paris Pike. Abandoned in the early 1950s, the ownership of the rail bed has

been divided into several parcels, (deeded to adjacent property owners). The actual bed is mostly intact. The opportunity exists in the long term for purchases or dedication of scenic and access easements.

- The old Chesapeake and Ohio line runs between Loudon Avenue and I-75 and is 2.7 miles in length.
- A section of rail is located between 4th Street and 7th Street (paralleling Jefferson Street).
- There are several remnants of line around Midland Avenue, Bluegrass-Aspendale and 7th Street that have procurement or easement potential.

Air Quality and Commuting

The MPO is responsible for demonstrating conformity with air quality standards/goals established by the Clean Air Act Amendments of 1990. In 1990, Fayette and Scott Counties were designated by the U.S. Environmental Protection Agency as a "non-attainment" air quality district for the pollutant ozone. In 1995, the two-county area was re-designated to "attainment" but was required to maintain air quality standards by showing conformity to the State Implementation Plan (SIP). In order to maintain the standard for ozone, the emissions of carbon monoxide, ozone precursors (including the group of hydrocarbons known as volatile organic compounds) and oxides of nitrogen must be controlled and remain below emissions estimates from the SIP budget. In accordance with the 1990 Clean Air Act Amendments, Lexington Area MPO transportation projects, programs, and plans cannot contribute to violations of these standards.

Ozone levels for the past four years have been in the good or moderate levels, with the majority of days in the good range. In 1998, there were 4 days that exceeded the moderate range; in 1999, there were 11 days; in 2000 and 2001, there was one day each of exceedence. Weather is a significant factor in ozone levels. The summer of 1999 was hot and dry, resulting in the increased number of days of exceedence.²²

Most of the major employment areas in Lexington-Fayette County are within New Circle Road (or on its perimeter), including Downtown, the University of Kentucky, the hospitals and LexMark. Additional employment locations are along the major arterial corridors between New Circle and Man o' War

Boulevard, especially on Richmond, Nicholasville and Harrodsburg Roads. This results in heavy traffic congestion along the major corridors during rush hour traffic.²³ (See Key Land Use Locations Map on page 2-20.)

National surveys show that Americans are willing to walk as far as two miles and bike as far as five miles. Current data on commuters to the University of Kentucky show that there are 12,872 employees at

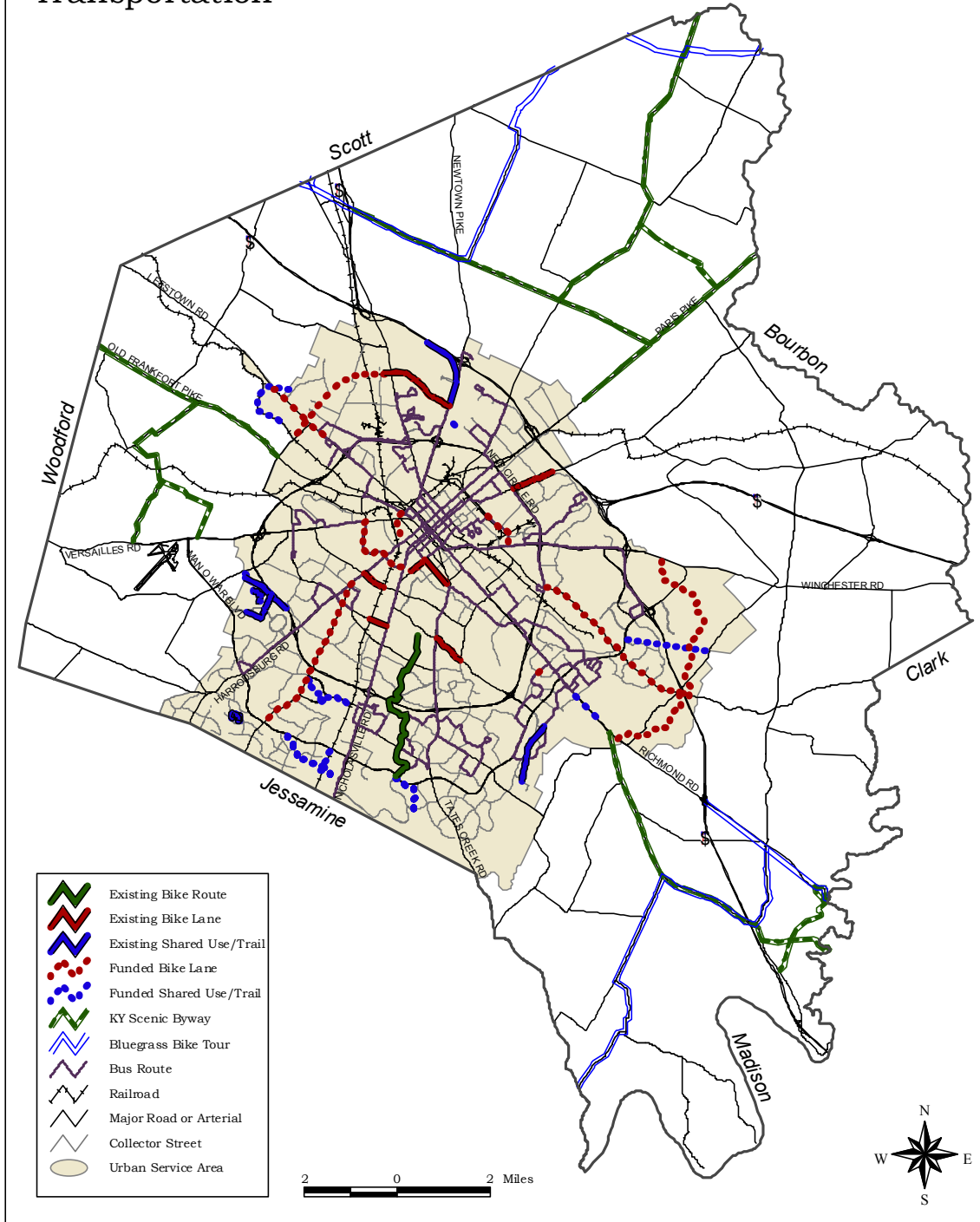
UK, of which 5,787 live within two miles of campus, and 11,463 live within five miles. Of the 10,170 students who live off campus, 5,629 live within 2 miles, and 9,287 are within 5 miles²⁴. The Federal Highway Administration has a goal of 15.8 percent of all commuters bicycling or walking (National Bicycle and Walking Study, FHWA). For employees and students who travel to UK each day within a five-mile radius, that would equate to 3,113 persons not using motorized vehicles for the commute.



Nicholasville Road

LFUCG Greenway Master Plan

Transportation



2.6. HEALTH AND FITNESS

In Kentucky, lifestyles lacking physical activity have led to the second highest overweight population in the Country.²⁵ According to the U.S. Center for Disease Control, over 50 percent of all Americans are overweight. For Kentuckians, the problem is even worse, with 60 percent of the population overweight. This represents a significant increase from 46 percent since 1990. Locally, 56 percent of the population in Lexington-Fayette County was overweight in 2000.²⁶

Lexington-Fayette County is a regional center for health care. Five hospitals are within a 2-mile radius: UK Medical Center, VA Central, Samaritan Hospital, St. Joseph Hospital, and Central Baptist Hospital. Eastern State Hospital and St. Joseph East Hospital are also in the Urban Service Area. None of the medical facilities have outdoor walking paths for physical rehabilitation or employee fitness. There are numerous private fitness clubs in the area, along with four YMCA branches and a YWCA. (See Key Land Use Locations Map on page 2-20.)

2.7. PARKS AND RECREATION

Public outdoor recreation is currently limited to open space in municipal parks and school grounds. The LFUCG's Division of Parks and Recreation manages approximately 4,275 acres of public parks, playgrounds, swimming pools, and golf courses. The Division maintains 99 different parks, which include community parks, a nature sanctuary, and recreation centers. In addition to the local parks system, there is one state owned and operated park, the 1,032-acre Kentucky Horse Park. (See Key Land Use Locations Map on page 2-20.)



Kirklevington Park

The LFUCG's 1998 Comprehensive Parks and Recreation Master Plan establishes goals for the acreage of park lands according to the area population. Their standards call for 2.5 acres of neighborhood parks, 2.5 acres of multi-neighborhood parks, and 5 acres of community parks per 1,000 people. This is a total of 10 acres for every 1,000 people. Currently Lexington-Fayette County exceeds this goal with approximately 16 acres per 1,000 people, but this does not consider the proximity of parks to the population served. The 1998 Master Plan calls for the establishment of proximity standards, meaning that parks should be located within their intended service area.

There is a total of 27 miles of existing hard surface trails within municipal parks, of which 7 miles were designed for shared use, as defined by the 1999 AASHTO Guide for the Development of Bicycle Facilities and this Greenway Master Plan. The longest trail is an eight-mile natural surface trail in Raven Run Nature Sanctuary. Large community parks, such as Masterson Station, Shillito, Southland and Woodland, have informal paths of natural surface. The University of Kentucky has a two-mile shared use trail at the Arboretum.

Existing park trails will be incorporated into the proposed greenway system. Additionally, within the 4,275 acres of parkland are approximately 22 miles of stream channel. Calculating corridor width at 50 feet, there are an estimated 134 acres of conservation greenway within parks. As part of the comprehensive greenway system, the greenways inside of the LFUCG park system need to be maintained and managed in the same manner as the entire system.

The 1998 Comprehensive Parks and Recreation Master Plan identifies the establishment of greenways as one of the highest priorities for the County. The plan calls for the development of greenways to first connect the community parks to adjacent neighborhoods and schools, then neighborhood parks to adjacent residential areas and schools. The third priority is to connect greenways with government facilities and private commercial centers. The plan recommends standards of one mile of greenway per 5,000 residents, or 50 miles of greenways.

2.8. CULTURAL AND HISTORICAL RESOURCES

When Kentucky became a state in 1792, Lexington was the largest city and the cultural center of the area, commonly referred to as the “Athens of the West”. Early on, Lexington boasted a public library, schools, bookstores, printing offices, theatrical groups and a musical society. Transylvania University, founded in 1788, was the first university west of the Alleghenies. Lexington had hundreds of businesses, some paved streets, sidewalks and street lighting. Horse racing started early in Lexington’s history, racing on the Town Commons.²⁷ A prominent politician, Henry Clay, built his 400-acre estate, Ashland, in 1812.

Today, Ashland is one of Lexington's prime historical attractions. The 20-acre site, along with Keeneland Race Course, is designated as National Historic Landmarks. Numerous other historic sites are open to the public. There are 16 urban and 5 rural National Register Historic Districts. Approximately 120 individual properties are included in the National Register of Historic Places. Thousands of structures are included in the 14 local H-1 historic overlay districts. Fifteen historic rural settlements are scattered throughout the County, plus Bracktown and Cadentown, located within the Urban Service Area.²⁸

Lexington-Fayette County continues to be the center of the region’s educational and cultural activities. The University of Kentucky, Transylvania University and Lexington Theological Seminary are institutions for higher education. Museums include the U.K. Art Museum, Children’s Museum and Headley-Whitley Museum. Several theater, dance and art groups have strong community support and will enjoy the recent completion of the Cultural Arts Center in Downtown. (See Key Land Use Locations Map on page 2-20.)

As the horse capital of the world, Lexington-Fayette County's identity is deeply rooted in its history of equine agriculture. The region is known worldwide for its affiliation with horses; there are numerous horse farms, two racetracks (Keeneland and the Red Mile); the Kentucky Horse Center and the Kentucky Horse Park.

The Bluegrass Region of Central Kentucky has a distinct identity derived from its rural character of farms, fences, tree-lined roads, rolling topography



Kentucky Horse Park

and meandering streams. “Greenspace” refers to the essential characteristics of the Community that give the Bluegrass its special identity and quality of life. Greenspace, however, is more than vernacular landscapes of horse farms and rock fences. It also encompasses natural environments (such as streams and the Palisades) and the built environment (such as parks, and structures and sites that recall the Community’s history). The greenspace system refers to the rich fabric of these urban and rural landscape elements woven together throughout the Community, giving it a coherent identity. The greenway system will connect greenspace resources and sites throughout the Urban County that can be experienced by citizens on bicycles or on foot.

Communities evolve over time. As development occurs, Lexington-Fayette County is in danger of becoming Commonplace, USA. It is important to recognize the small and large features that shape the Community’s image, and take measures to preserve and strengthen that image.

Designated areas/elements identified as important greenspace resources include:

Scenic View Sheds	Scenic Byways
Nature Sanctuaries	Reservoirs
Stone Fences	Street Trees
Historic Public Spaces	Historic Districts
Kentucky River Palisades	
Significant Stands of Trees	
Community Icons* & Linkages**; ²⁹	

*Community Icons: i.e., Calumet, Keeneland, Ashland, Rupp Arena

**Linkages: Natural Corridors, Transportation Corridors, Abandoned Railroad Rights-of-Way.

2.9. ECONOMIC RESOURCES

The health of the local economy influences land use decisions and quality of life, so the success of the greenway program will be dependent upon a stable and sound economic base. Historically, Lexington-Fayette County has been a regional employment hub, with good growth in total number of jobs and low unemployment. Growth has been especially strong in the wholesale, retail and service industries, with the result that over fifty percent of all jobs are in these categories (1996). This trend is expected to continue, with Lexington-Fayette County as the regional center for retail trade and personal services (especially health care). While agriculture only employs 1.6 percent of the total workforce, it accounts for 80 percent of the County's total acreage.

Visitors and residents alike enjoy scenic drives and horse farm tours in the Rural Service Area. Tourism is a very important sector of the economy in Lexington-Fayette County, ranking second in the state. As an industry, tourism created over 14,000 jobs and 600 million dollars in revenue during the year 2000³⁰.

Top destinations in Fayette County include the Kentucky Horse Park, Rupp Arena, Keeneland Race Track, Red Mile Racetrack, Henry Clay Estate, Mary Todd Lincoln House, Opera House, Children's Museum and several other museums located throughout the area³¹. It is important to protect Lexington-Fayette County's natural, cultural, historic and scenic resources that are so vital to the tourism industry.³²



Waveland State Historic Site

2.10. GREENWAYS

The LFUCG currently owns title or easement on approximately 135 acres of greenway, with plans to secure another 65 acres within the next year. In addition, approximately 22 miles of streams are located within the local parks. To date, the existing greenways have been acquired when there has been an opportunity to obtain the land during new development, associated with a park or road project, or through buy-outs for flood control. This approach has resulted in small and isolated fragments of greenways. Efforts involving greenways include the following:

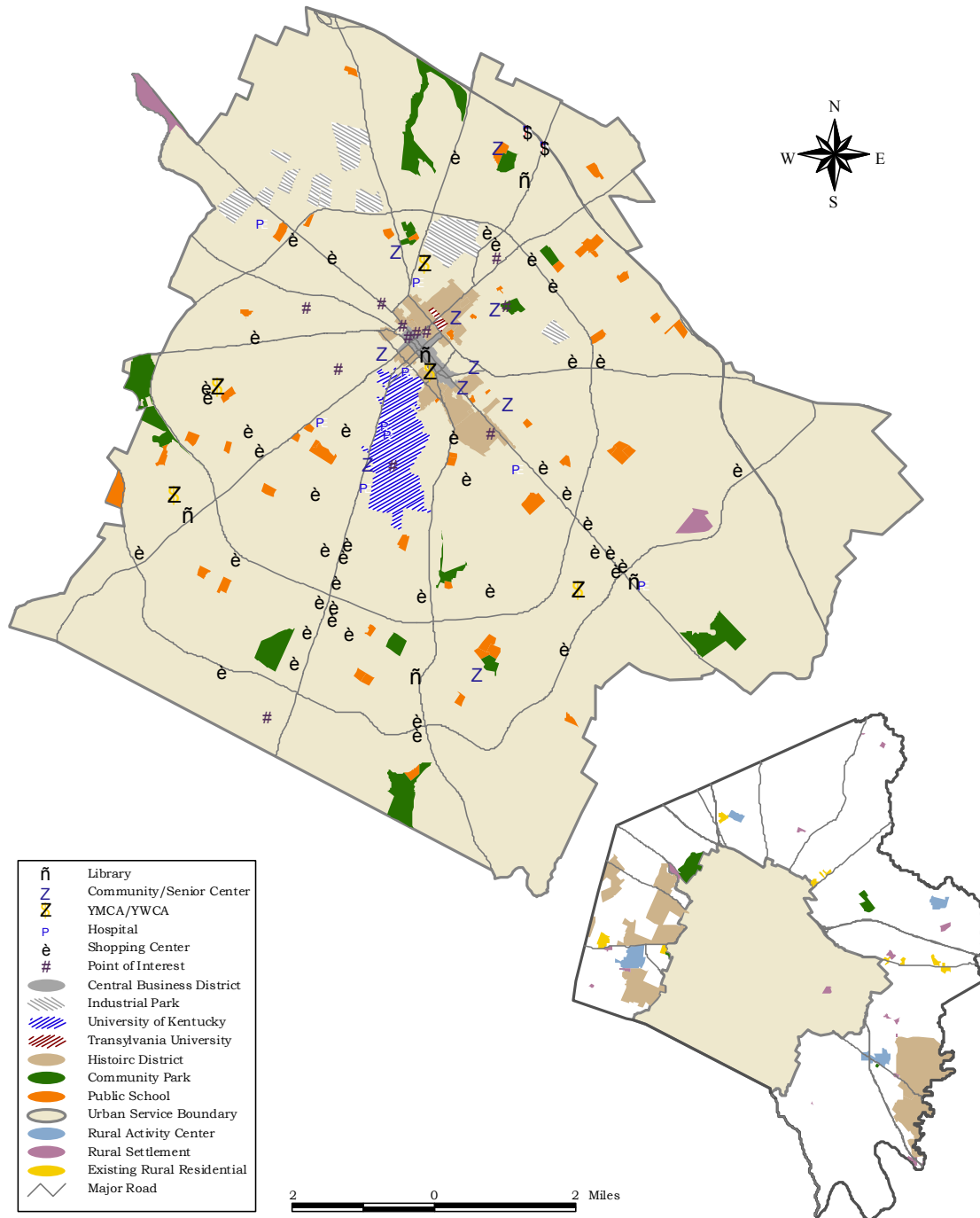
- property acquisition through the planning process (from the greenways that were identified on the 1996 Comprehensive Plan Update Land Use Map),
- construction of bicycle and pedestrian projects (from the bike and pedestrian routes identified in transportation plans),
- construction of trails within parks and
- property acquisition for flood control (protection of the 100-year post development floodplains as described in the Stormwater Manual).

Currently, the management of greenways is divided among various departments and divisions within the LFUCG. For greenways located in or adjoining a park, the Division of Parks and Recreation provides the maintenance. For all other greenways, maintenance is the responsibility of the Division of Engineering, who may either contract the maintenance or provide funds to other divisions as needed. The Division of Streets and Roads has assisted with maintenance when the greenway is associated with a hard surface, structure failure or an erosion problem. In some locations, local residents provide the maintenance and in other locations there is no maintenance conducted.

There has not been a comprehensive approach to a county-wide system. As the greenway system grows, a more well defined program is needed to plan, develop and maintain these facilities.

LFUCG Greenway Master Plan

Key Landuse Locations



2.11. DESCRIPTION OF THE URBAN SERVICE AREA AND RURAL SERVICE AREA³³

The Urban County Government has divided the Urban County into the Urban Service Area and the Rural Service Area, in recognition of each area's different needs and for ease of management. The Urban Service Area extends from the Jessamine County line north to just beyond the I-64 and I-75 exchange. It extends basically along New Circle Road to the west, and a couple of miles east from I-75 along Winchester Road. The Urban Service Area consists of 85 square miles, or approximately 30% of the County.

Outside of the Urban Service Area is the Rural Service Area, which consists of 200 square miles, or approximately 70% of Lexington-Fayette County. Each section is described below, and the discussions include references to existing opportunities and constraints for greenway development.



Urban Service Area

The purpose of the Urban Service Area is to protect the vital agricultural and natural resources in the rural portions of the County. The vast majority of Lexington-Fayette County's residential, commercial and industrial development lies within the Urban Service Area. As Lexington has continued to grow as a regional retail, employment and health care center, the Urban Service Area has grown to accommodate the influx of new residents and commerce. In 1996, 5,400 acres of once vacant or agricultural land were added as the Expansion Area to provide additional housing, shopping, employment and public/semi-public land.

The 2001 Comprehensive Plan Update shows that greenspace/open space and water accounts for a total of 1,962 acres in the Urban Service Area. An additional 2,184 acres are in public recreation, 691 acres in public education, 2,408 acres in semi-public spaces and 1,677 acres in other public uses.

Within the Urban Service Area, 25% of the land, or 14,000 acres, was undeveloped in 2000.

Approximately 10%, or 1,400 acres of this, is environmentally sensitive with floodplains, areas of steep slopes or sinkholes. Another 340 acres, or 2%, are geologic hazard areas. Special attention will have to be given to these areas. Remediations to existing neighborhoods for flood control, improved water quality, improved pedestrian access and greenspace acquisition and linkage are areas identified as needing attention.

Many origin and destination points are in the Urban Service Area, including schools, employment centers, parks, cultural/historic attractions, community centers and shopping areas. Downtown is considered the core of the Community, and is a vital hub for cross-town linkages. In efforts to help revitalize Downtown, the LFUCG has expressed interest in utilizing trails to encourage infill in the Downtown area. This will hopefully make Downtown more attractive to pedestrians and convey a positive image, which will result in greater use of the Downtown area.



Downtown Lexington

The Urban Service Area contains tributary reaches of the North Elkhorn, Cane Run, Town Branch, South Elkhorn, and East and West Hickman Creeks and spans seven watersheds. During the development of downtown, much of the natural stream system and drainage corridors were replaced with underground

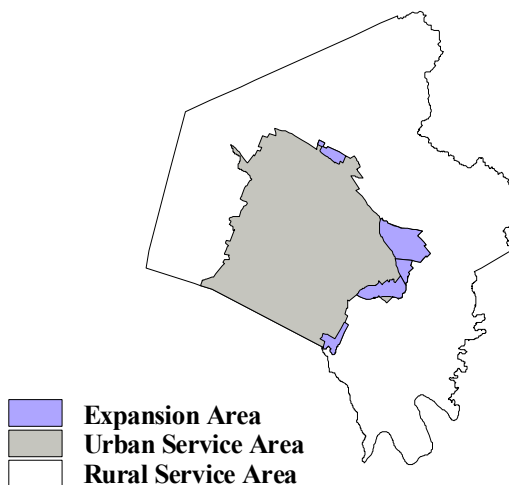
pipes and runoff collection facilities. The alteration of the natural drainage system and addition of impervious area increases the importance of floodplain protection in undisturbed areas.

In the eastern Urban Service Area, greenways have been identified in several of the North Elkhorn tributaries. South of Downtown, greenways have been designated for parts of the West Hickman and South Elkhorn Tributaries. In the north, Town Branch Tributary Greenways have been preserved near Masterson Station Park and further south near the Wolf Run confluence. Active trails in the Urban Service Area include Squires Road Trail, Beaumont Trail and Coldstream Trail

Numerous possibilities exist for road projects with bike facilities, which would complement the proposed trails for Brighton East Rail Trail, the Shillito Connector, Coldstream and Jacobson Parks.

Greenways in Expansion Areas

The Expansion Areas are considered part of the Urban Service Area and designated for development. The principal organizing feature of the Expansion Areas is a series of greenways, which are located along stream corridors. No private development will be allowed in the greenways, however the owners will be allowed to use the acreage within a greenway to calculate permitted density on contiguous lands. The greenways are established to serve as community character-defining open space that provides the framework for the natural resource and recreational opportunities. Depending on the particular use and function of the greenway, appropriate access will be required.



Rural Service Area

Most of the County's agricultural resources lie within the Rural Service Area (RSA). As a result, planning and management within this area is conducted in a manner that will preserve those resources, as well as many scenic views. For the sole purpose of describing resources and facilities within the RSA, the area has been divided into four quadrants. The following discussions describe resources and facilities, as well as provide references to existing opportunities and constraints for greenways within the RSA.



West Quadrant

The west quadrant lies between the Urban Service Area and the Woodford County line. It extends from Jessamine County north to Newtown Pike and includes Old Frankfort Pike, the Town Branch watershed, Cane Run watershed and part of the South Elkhorn watershed.

Along Town Branch are steep slopes and some remaining treestands. One of the largest landowners in the Cane Run watershed is the Kentucky Horse Park, which contains woods reminiscent of the savanna-like forests original in the area. Much of Cane Run watershed contains sinkholes and is the recharge area for the Royal Spring Aquifer. The South Elkhorn Creek corridor includes tree stands, steep slopes, and sinkholes. The South Elkhorn Creek watershed has also been identified as a priority watershed in the State 2000 Watershed Management framework program.

The Rural Land Management Plan identifies three areas of ecological high priority within the west

quadrant: the Kentucky Horse Park's native savanna woods, Masterson Station's rare bird habitats, and Mare Haven Farm's 20 to 30 acres of native plants. The Rural Land Management Plan advises that a greenway trail be developed along the Town Branch, Cane Run and South Elkhorn Creek.

The western quadrant's land use, scenery, and economic base are defined by the presence of the equine industry. This rural agricultural area serves as a cultural and historic resource; the Redd Road, West Fayette County, Pisgah and Bowman Mill Road Rural Historic Districts are located here, as well as four rural settlements.



Kentucky Horse Park

The quadrant has four major recreational destinations: the Kentucky Horse Park, Keeneland, and two community parks at Masterson Station and Cardinal Run. The spectacular scenery is displayed on the Kentucky Scenic Byway Tour along Old Frankfort Pike; Elkchester, Rice and Van Meter Roads; and Iron Works Pike. Bluegrass Airport and Spindletop Office Park are Rural Activities Centers that are additional destination and employment centers. With little development, there are minimal origin points.

The rural county roads, while scenic, are generally narrow, rolling and winding. Main arterials, Leestown Road and Old Frankfort Pike, are generally unsuitable for bicycle travel because of heavy vehicular traffic. Another potential transportation corridor is the CSX rail corridor adjacent to Town Branch. This line could be utilized as a rail-trail to connect Scott, Woodford, and Franklin Counties.

North Quadrant

The north quadrant extends from the Urban Service Area to the Scott County and Bourbon County borders, and from Newtown Pike to Bryan Station Road. There are extensive floodplains, significant tree stands, environmentally sensitive or geologic hazard areas in the North Elkhorn Creek watershed. The Rural Land Management Plan recommends that these natural resources be protected, and has potential for a trail and recreational destination. Conservation efforts are underway throughout North Elkhorn by citizen groups, such as the Elkhorn Creek Corridor Coalition.

The horse industry and historical rural heritage also characterize this area of the County. There are three rural settlements, but as a rural setting, there are minimal origins and destinations in the North Quadrant.

Some of the rural roads are suitable for bicycle travel, with speeds around 35 mph and acceptable sight distance and grading. Portions of Russell Cave, Hughes Lane, Iron Works, and Paris Pike have been designated as Scenic Byways and Driving Tour. There are three-and-a-half miles of abandoned railroad line running parallel and just north of Bryan Station Road that has potential for a Rails-to-Trails corridor. The Rural Land Management Plan suggests that rural roads connecting Lexington with Georgetown and Paris be designated as bike routes.

East Quadrant

The east quadrant extends from the Urban Service Area to the Clark County line, and from Bryan Station Road to Athens-Boonesboro Road. The Boone Creek watershed is located in the east, as well as several headwater branches of the North Elkhorn Creek, including Avon Branch, Davis Fork and David Creek. Boone Creek is a beautiful, wooded stream that has potential for seasonal water boating. The Rural Land Management Plan recommends that any trails would need to be designed carefully to impact the area as little as possible.

Like the rest of the Rural Service Area, general agriculture characterizes the east quadrant. The other two of the four Rural Activity Centers are located in this area and serve as potential destinations. Avon Rural Activity Center (Blue Grass Station) is located on Briar Hill Road and Houston-Antioch Road, and its land use is warehousing and light industry. The Blue Sky Rural

Activity Center, located at the intersection of Athens-Boonesboro Road and I-75 has warehousing, light industry and interstate commercial development. Origin points include rural residential development along Winchester Road and seven rural settlements. The Middle Reaches of the Boone Creek Rural Historic District encompass thousands of acres in this quadrant.

A designated greenway in the quadrant is the 6.5-mile abandoned rail line. Funding for portions of the line inside the Urban Service Area has been approved. The trail could extend east through the Rural Service Area to the Clark County line and on to Winchester, Mt. Sterling, and eventually Ashland, Kentucky.



Future Brighton East Rail Trail

South Quadrant

The south quadrant extends from the Urban Service Area and Athens-Boonesboro Road to the Jessamine and Madison County lines. Most of the northern and central parts of the quadrant are agricultural areas, while the southern edges along the county lines are designated as Environmentally Sensitive Areas. The quadrant includes the Kentucky River watershed and portions of the Boone Creek and East Hickman watersheds. Steep slopes characterize Kentucky River and East Hickman area, limiting trail use to hiking.

The importance of the southern quadrant can be found in its natural resource and scenic value. The natural and wildlife resources are included in parks and reserves, such as Flora Cliff Nature Preserve and Raven Run Nature Sanctuary, which are home to many rare species of plants. For some species, these are their only known locations in the Country.

Raven Run Nature Sanctuary is located in this area and the goal of the park is to preserve the scenic and biotic resources of the region, while providing recreation facilities and hiking trails for public use. The Environmentally Sensitive Areas in this quadrant include the Kentucky River Palisades and Boone Creek. The Palisades are defined by their steep slopes, limestone cliffs and unique habitat. Boone Creek is regarded for its scenic wooded hillsides with exposed bedrock. Marble Creek and Elk Lick Creek are just two of the many tributaries in the area.

Existing conservation easements along Elk Lick Creek contain numerous native wildflowers. South of Raven Run Nature Sanctuary, there is a remaining 10 to 20 acre beech-tulip forest along Dry Branch Road.

There are many streams in the area that drain directly into the Kentucky River. In their watershed-based approach to improving water quality, the Environmental Protection Agency stresses the importance of protecting these streams, since protection and preservation of tributary stream habitat helps to improve water quality downstream at the Kentucky River.

The Rural Land Management Plan proposed that Raven Run Nature Sanctuary be extended north to I-75 and south to include the many tributaries of the Kentucky River. Inclusion of these tributaries would help to protect the floodplains and water quality of the streams and the Kentucky River. The expansion of the Nature Sanctuary would also help protect several endangered or threatened species that have been cited in the area. The LFUCG has had some success in expanding Raven Run in recent years, growing by approximately 200 acres.

Designated State Scenic Byways include Old Richmond, McCalls Mill and Grimes Mill Roads. Three Nationally Registered Historic Districts, Boone Creek Middle Reaches, Athens, and Boone Creek, are in this quadrant, as well as three rural settlements.

There are many potential areas for greenways and trails in the South Quadrant because of its scenic and recreational value. However, individual studies must be done to determine the impact trails and public access would have to the abundance of rare native plants. Hiking trails would have to be carefully

designed to ensure the preservation of the natural scenic beauty of the area and to avoid impact on the sensitive species. The steep terrain would also

present grading problems for shared use trails and compliance with the Americans with Disabilities Act.



Raven Run

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